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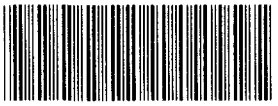

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Mr. Frazer Lockhart
U.S. Department of Energy
Rocky Flats Office
P.O. Box 928
Golden, CO 80402-0928

RE: **REVIEW AND COMMENT; PHASE 1 RFI/RI WORK PLAN FOR PRESENT LANDFILL (SWMU 114) AND INACTIVE HAZARDOUS STORAGE AREA (SWMU 203), OPERABLE UNIT NO. 3 (now OU-7) ROCKY FLATS PLANT, DRAFT FINAL, JUNE 4, 1990**

Dear Mr. Lockhart:

The Colorado Department of Health, Hazardous Materials and Waste Management Division ("the Division") has reviewed the subject document submitted by DOE and prime contractor, EG&G. The Division's comments, and those of EPA and its contractor (PRC), are attached.

The referenced document cannot be approved in its present form. The document should reflect a thorough review and current knowledge of existing conditions, previous attempts to monitor or characterize the site, and proposed actions for full investigation in support of possible corrective actions.

Additionally, the approved document should serve as a field guide for those individuals or organizations charged with the responsibility to implement work assignments.

Properly prepared, the Division should be able to determine plan adequacy **and** its effectiveness for use by field personnel. Because the document treats some informational requirements of an RFI Work Plan as objectives, and lacks specific data from previous investigations, the Division is unable to determine, and thereby questions, the adequacy and effectiveness of the plan.

For these and other reasons, the Division, as lead regulatory agency, requires substantial revision of the plan as set forth in the body of comments.

If you have any questions concerning these comments, please call Harlen Ainscough of my staff at (303) 331-4977.

Sincerely,

Gary W. Baughman

Gary W. Baughman, Unit Leader
Hazardous Waste Facilities
Hazardous Materials & Waste Management Division

cc: Dan Miller, AGO
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Bob Birk, DOE
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OU-7 General Comments

An RFI Work Plan should reflect a thorough review and the present understanding of existing conditions, previous attempts to monitor or characterize the site, and proposed actions for further investigation. Properly prepared, regulatory agencies should be able to determine plan adequacy and effectiveness.

Concurrently, the plan should provide specific, detailed procedures and technologies to those individuals responsible for actual investigations. Implementation should allow investigators to fully characterize the site and set the stage, if warranted, for corrective action.

The OU-7 work plan, as written, is more an "object" than it is a process or procedural "plan of work". It does not adequately address the oversight needs of the Division and EPA and is not sufficiently detailed to implement directly.

In reviewing the document, the Division has considered its completeness by referring to OWSER Directive (9502.00-6d) "Interim Final RCRA Facility Guidance, Development of an RFI Work Plan and General Considerations for RCRA Facility Investigations", May 1989, in four volumes. Figure 2-1, p2-2, Vol. 1 of the guidance document provides a basic outline of the contents of an RFI Work Plan. This document should be consulted in the preparation of the revision. The Division should be consulted, by letter or telephone, if the preparer questions the relevance of any information requested in the guidance document.

Also prior to plan revision, attachment 2 (the Statement of Work) of the IAG, specifically the requirements set forth in Sections VI. and VII.D. pages 24-31, should be reviewed. Since the document is intended for use as a field resource book, every effort should be made to prepare a more concise document. This would largely reduce dependency on the appendices, thereby reducing the chance of improper or inadequate implementation.

A significant shortcoming is that some informational requirements that should be included in the work plan are treated as objectives of the plan. Certain information is necessary, as prescribed by the RFI Work Plan outline, to facilitate Division/EPA determination of plan adequacy. Such items cannot be addressed as objectives as will be discussed in specific references.

Another issue is that the sampling/monitoring plans should be based upon the best or most appropriate techniques. There is no indication that alternatives were considered in the selection of sampling or analysis methodologies. For example, whole air sampling has higher detection limits than those utilizing solvent techniques. Since a discussion of detection limits is missing from the document it is impossible to determine whether whole gas sampling will suffice or whether a better method is needed.

Information Specifically Requested in RCRA RFI Work Plan Development Guidance (EPA 530/SW-89-031, May 1989)

The following comments are keyed, by section reference, to the outline beginning on page 2-3 of the above referenced guidance document. The Division reference to these sections or subsections should be interpreted as indicating that the Work Plan lacks the required information or is insufficient to allow a determination of plan adequacy.

The guidance document is general in nature and largely reflects a contaminant release from a facility other than a landfill. Consequently, certain requirements are not applicable to the Present Landfill. The Division's comments pertain only to those items we find to be applicable. The preparers should not attempt to address each informational request listed in the guidance, only those that are applicable.

This set of comments reflects the Division's understanding of the Work Plan's content. Where possible, reference is made to the document in general terms, rather than specific sections. Nevertheless, comments here may be redundant to some specific comments.

Section 2.2.1.1 Regarding the locations of all wells, every effort should be made to determine and map the locations of all boreholes and wells drilled in 1974 (Woodward and Clevenger; Zeff). The locations are important to determine whether proposed wells will encounter or communicate with earlier holes/wells.

Also, any data available from these holes may be useful in planning the current effort, determining the value or risks of additional holes and determining potential spread or acceleration of contamination within the waste or into soil or bedrock. It is assumed that these wells were subsequently covered by additional waste as the landfill expanded and cannot be incorporated into the RFI activities.

Fifty-seven wells were referenced as Rockwell 1987 of the Work Plan. Do these wells include the forty-seven drilled by Woodward-Clevenger or Zeff? Any additional holes should be mapped and descriptions/details should be provided.

Section 2.2.1.2 Although it may be true that no data exist to characterize the nature and extent of contaminated soil "around and beneath" the landfill, it is important to provide basic information on expected soil types and properties. It would also help to project, based on plant waste streams, what contamination may have occurred and possible transport and fate scenarios. Otherwise, how can an effective and comprehensive sample and analysis plan be proposed.

Wind dispersal (See Work Plan Section 2.3.4) has been indicated to be an exposure or migration pathway yet information on air quality associated with SWMU's 114 and 203 has not been provided. Please provide any relevant air quality data or justify that the data are irrelevant. For example, discuss the partially contaminated dust plume from SWMU 203 in relation to wind dispersal of solid phase contaminants and liquid contaminated soils.

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Please address the potential impacts on human health and the environment specific to the current known contaminant levels of the landfill. This should briefly discuss impacts on demographics, ground water, surface water and land use.

Section 2.2.1 Has consideration been given to the properties of contaminants that may result in their differential migration within the soil? Has the potential for co-solvation been addressed in the formulation of the plan?

How does the Work Plan allow for adequate delineation of affected soils and the degree of damage to the soils.

Have remote sensing techniques been considered to delineate contaminate extent through detection of stress on vegetation or similar approaches.

Section 2.2.2. The referenced guidance specifies that actual dates for starting and accomplishing specific tasks and dates for reporting information to the regulatory agency be provided. Please submit this information in the revision.

Section 2.2.3.1 Section 2.2 of the Work Plan addresses the nature of five media. Although Section 2.2 provides historical information on four categories of hazardous waste, and on a tritium/strontium release, it fails to provide the following components prescribed by the referenced guidance.

- The Phase I study is intended to address source and soils. However, no attempt has been made to circumscribe (if not delineate) suspected areas of soil contamination whether by water from the fill or dust from SWMU 203. This information is necessary to demonstrate that and adequate sampling plan can be (or has been) proposed. This assessment must include an identification of monitoring constituents and indicator parameters consistent with the types of waste or waste by-products potentially present in the soil.

  It would be helpful to utilize the wind rose to determine the potential area of contamination from SWMU 203.

- In a similar fashion, the wind data could be used to delineate the soils affected by spraying the banks of the east pond. For example, has the spraying contaminated soil in the surface drainages downwind of the spray fields thereby affecting surface waters outside the containment of the east pond? (also see 2.2.3.2, Environmental Setting Characterization)

Furthermore, the sampling and analysis effort should be defined in regard to:

- expected soil contamination constituents, the appropriate analytical methods, detection limits, and the rationale for their selection,

- sampling methods, locations, equipment and schedules,

- QA/QC procedures to ensure valid waste characterization.

As the document now stands, there has been very little conceptual modeling, particularly in the Site Conceptual Model, that would indicate the sampling and monitoring plan to be on track. The age of the fill further demonstrates the need to define monitoring constituents and indicator parameters due to potential by-product formation.

No specific information is provided for SWMU 203 on which wastes may have been spilled (even if minor in quantity), or even which specific wastes were handled, and whether liquid or solid in form.

The document emphasizes ground water issues rather than demonstrating the best possible understanding of source and soil contamination. Use the waste stream studies referenced on page 2-29 as Section 1.4.3 to estimate the quantities of each contaminant. (Note: Although referenced, no such section currently exists in the document).

Section 2.2.4 The document (see Section 7.1.3.1) provides information on the proposed monitoring network, ie. number of wells, well locations etc., but provides little, if any information on the type of data that will be collected, (ie: ph, conductivity, etc.) This information must be provided before the Division can determine whether the program will provide the information needed to properly characterize the wastes of SWMU 114. Please consider the waste streams disposed at the site in determining what data will be needed. The information in sections 7.1.3.2.1 and .2 for SWMU 203 are in line with that requested. However for both SWMU 114 and 203 additional consideration should be given to addressing by-product or residual detectable components indicative of contamination.

Section 2.2.5 Use of the Waste Stream study should again help characterize the release and to plan a more efficient strategy.

Section 2.2.6 The QQAP must be included as a part of the Work Plan, and thus be immediately available to field personnel. Please refer to page 2-21 of the referenced guidance.

Section 2.2.7 "Data management and reporting procedures", to allow proper reporting of data and results to regulatory authorities, must be set forth. (See Section 5, page 5-1 of the referenced guidance for more details). For example, are progress reports planned to inform the regulatory agencies on the percentage of completion and achieved milestones? Furthermore, what procedures will be used to determine and report the need for IM/IRAs as new data become available.

Section 2.2.8 Potential Receptors (e.g. Task 6) must be identified in the Work Plan not as work to be performed through implementation of the plan. The Division must be able to determine if the plan will result in the data and analyses necessary to determine the impact upon the receptors. Thus the Section 6.6 reference to identification of "potential human and environmental receptors" as an objective is unacceptable. This identification must be included in the Work Plan.

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The same holds true for "potential exposure routes", "extent of expected impact or threat" and "Levels of Uncertainty". (See Section 2.2.8, page 2-22 of the referenced guidance.)

All subsequent sub-sections impacted by these comments should be eliminated in favor of actual information on receptors, etc.

Section 6.7 should indicate susceptible environmental systems as a prelude to the course of action/sampling being proposed.

Specific Comments on the Work Plan

Specific comments are offered constructively to guide the revision of the work plan; The Division seeks and expects a final plan that:

- indicates a clear and concise understanding of known conditions and potential conditions,
- provides a review or analysis of available characterization (sampling/testing) techniques best suited to measuring the known and potential conditions,
- during implementation does not contribute to the spread or acceleration of contamination,
- provides detail sufficient to allow the Division/EPA to understand the issues and approve the plan,
- adequately informs field/laboratory personnel on proper or required procedures.
- informs in a manner to build a reasonable level of public understanding and trust.

The Divisions specific comments are intended to reflect these goals.

The Department acknowledges the potential for comments to be a result of misconception or unfamiliarity with an issue or technique. If such arise, the preparer is encouraged to clarify the issue rather than assume that a suggested approach, or description, is unacceptable.

Comments are keyed to the outline of the document. Reference to paragraphs is from the top of the page not in respect to the paragraphs of the referenced section.

Section 1.0, page 1-1, Alter the text to read OU-7 in this and subsequent sections.

Section 1.2, page 1-2, The statement that the east pond will be evaluated in Phase II, if significant contamination has occurred, raises concerns about the spray fields adjacent to the pond. These are potentially contaminated soil areas; therefore, it may be more efficient to investigate them while the other soil areas are being studied. This assumes that contamination has occurred whether significant contamination is found in the leachate or pond sediments. However, spraying has increased the potential for concentrating waste in the soils regardless of levels in the pond water.

Section 1.3, page 1-3, paragraph 2, The Phase I work plan should be sufficiently detailed to characterize the soil and source, and avoid subsequent investigation. If additional work becomes necessary, it should be as an addendum to Phase I and not confused with Phase II.

Section 1.6, page 1-6, The local geology is so generalized to be of little value to field personnel. If any site specific geology has been determined since the first submittal of this document, it should be included during the revision.

Section 2.1.1.1, page 2-2, paragraph 1, Although clarified as "daily cover" in the third paragraph of this page, please indicate in the appropriate sentence of paragraph one, that six-inches of soil are placed daily.

Section 2.1.1.1, page 2-3, paragraph 2, The continuing practice of spraying the banks of the east pond is of concern. Is this practiced during moderate to high wind conditions? If so, is the spray carried into drainage downstream of the pond?

Section 2.1.1.1, page 2-4, paragraph 1, As written, it is unclear whether the 405,000 cubic yards of material is waste only, or includes the daily cover soil.

Section 2.1.1.2, page 2-5, paragraph 2, A table of the waste stored in SWMU 203, including both liquid and solid phases, should be provided. Furthermore, the sampling and analysis plan must reflect techniques that will allow detection of any spills.

Section 2.1.2, page 2-6, paragraph 3, Are the data from the 47 borings available? Specifically, are the borehole descriptions, elevations, locations, depths etc. available which will assist in the design of the Phase I effort? The data summary in section 2.2.1 pertained to analytical results, not what might be learned from the holes themselves.

Section 2.1.3, page 2-6, Although, the 1974 wells drilled by Woodward-Clevenger and Zeff were covered by subsequent fill, it is important that their plan-view locations, if known, be shown on Plate 2-1. If their locations are unknown, please acknowledge! Our concern is that new wells may hit or be impacted by the old wells.

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Section 2.1.3.1, page 2-7, paragraph 4, Well No. 5-86 could not be located on plate 2-1 or 7-1. If it's location is off the map, please so state and provide coordinates.

Section 2.1.3.2, 2-8, paragraph 5, It is stated that upper Arapahoe sediments were deposited in a fluvial environment by meandering streams flowing off the ancestral Front Range. CDH has seen one interpretation from the bedrock geology study where oxbow meanders are shown. We question how the extremely low gradient required to form oxbows could occur in the Arapahoe Formation. Studies by Dr. Robert Weiner at CSM suggest the Arapahoe Formation to be a result of braided streams rather than more mature, lower gradient meander belt environments. Are the meanders referred to in this paragraph believed to be oxbows, and if so, please provide data and justification for the interpretation? If the streams are sinuous versus meandering, please so state.

Section 2.1.3.2, page 2-9, paragraph 1, Well No. 6-86 could not be located on plate 2-1 or 7-1. If it's location is off the map, please so state and provide coordinates.

Section 2.1.4.1, page 2-10, paragraph 2, It is stated that ground water is also discharged from the surficial ground water system into the underlying ground water system. A statement should be made that this observation will be supported in the Phase II RFI Workplan.

Section 2.1.6.2, page 2-16, paragraph 2; Replace the missing drafting tape from the north slurry wall of Plate 2-1.

Section 2.1.6.3, page 2-17, paragraph 1, Reference Figure 2-11 which shows the east pond embankment.

Section 2.2.1, page 2-17, The potential impacts, both positive and negative, of co-solvation of hazardous waste or constituents must be addressed to ensure that the sampling and analysis plan will properly characterize the site.

Section 2.2.1, page 2-18, paragraph 2, An identification of monitoring constituents and possible indicator parameters should be provided. The 1986 and 1987 waste stream studies should be utilized to direct this effort.

Section 2.2.1, page 2-19, paragraph 2, Locate wells on Plate 2-1 and 7-1. Indicate that these wells have been covered by post-1974 waste and cover material. Were these wells, cased or plugged? Were they properly abandoned before being covered by additional waste?

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Section 2.2.1, page 2-19, paragraph 4, The waste stream studies of 1986 and 1987 may provide additional information that would allow a better discussion of contamination. Examine the waste stream documents to determine whether a better pre-characterization is possible. If certain hazardous materials have not been used at RFP, it may be possible to reduce the number of analyses prescribed by the RFI.

Section 2.2.3.1, page 2-23, The suggestion is made that methylene chloride, toluene, and chloroform were commonly found in laboratory blanks. Since it is improper to discard data based on speculation, the Work Plan should provide for an investigation of prior and current laboratory procedures to ensure that the problem is not repeated. This may be by reference to the sampling and analysis plan if it addresses the issue. If QA/QC data are still available from the subject laboratory, an attempt should be made to verify or disqualify the data.

Section 2.2.3.2, page 2-23, paragraph 2, Since the referenced wells are completed in valley fill, the Division acknowledges the potential for them to be dry if leachate is moving below total well depth in bedrock. Please indicate whether this or other factors resulted in the lack of water in the wells.

Section 2.2.3.6, page 2-26, The concern stated for section 2.2.3.2 page 2-23 paragraph 3 is also applicable here.

Section 2.3.1 page 2-28, In the executive summary, page ii, paragraph 2, it is stated that some solid phase waste was stored in SMWU 203, please report or estimate, if possible, the quantities and types of waste.

Section 2.3.2, page 2-29, It is stated that soil contamination at SWMU 203 has not been characterized. In planning sample locations, has the potential for downwind contamination been addressed. Please address this concern.

Section 3.1, page 3-1, The Division echoes the EPA determination that this section pertains to Corrective Action. The entire section is unnecessary for the Work Plan and should be deleted.

Section 4.0, page 4-1, Although site wide ARARs are to be addressed on a site wide basis, it is imperative that the Work Plan provide a way to sample and analyze at or near the ARAR levels as they are established. Different sampling and analysis techniques achieve different detection limits. To the extent possible, the techniques chosen must be capable of determining concentrations at or below ARAR levels. The Division has not found a section where this very critical need has been addressed.

Section 6.4, page 6-3, paragraph 1, Reference is made to Table 7.2. This is an error, as Table 7.4 provides the noted information. However, neither Tables 7.2 or 7.4 provide detection limits. Detection limits must be provided. Additionally, a discussion of sampling and analysis alternatives that will support detection to the specified limit must provided.

Section 6.5.1, page 6-4, It is stated that ground water potentiometric surface maps will be prepared for different times. Please be specific as to the "different times".

Section 6.5.2, page 6-4, paragraph 2, Regarding stated limitations of the Phase I scope, it continually appears that the RFI is considered to be preliminary to a more exhaustive effort at source and soil characterization. The RFI is "to be" the exhaustive effort. Please reflect this requirement in the revision.

Section 6.6, page 6-5, Please refer to PRC comment #10. The Division supports PRC's position, the risk assessment must be specific to OU-7.

Section 6.6.1.1, page 6-7, last sentence of section, The Division will consider the deletion of specific hazardous waste if RFP can reasonably document that a hazardous material was not used on site. The plant's 1986 and 1987 waste stream studies may provide guidance if the plant processes are compatible with earlier practices. For example, if wood preservatives are atypical of RFP processes this may be a waste or group of wastes that may be excluded, provided the waste at issue would not have been used in another process.

Section 6.7, page 6-11, This task, the Division believes, has not been fully developed; as a result, we are unable to determine its adequacy. We understand that a site wide ecology study is planned that will provide data for specific OUs, including OU-7. The revision, if appropriate, may be based on the site wide efforts but must reflect any additional OU-7 issues.

Section 6.9, page 6-13, A Preliminary Site Characterization Summary is not provided in the IAG schedule. The Division, as lead agency for this OU, will informally review the document and provide direction subject to availability of manpower. However, work should proceed so that delivery dates for the actual RFI report are not delayed.

Section 6.10, page 6-14, The IAG having been signed, please update Figure 6-1 to reflect actual dates in conformity with the work schedules.

Section 7.0, page 7-1, paragraph 2, Please identify the two drive samples and three well pairs on Plate 7-1.

Section 7.0, page 7-2, (listed items), Scoping surveys should not be limited to SWMU 203, the characterization should also include potentially contaminated areas downwind of the unit. Scoping surveys should also be planned for the east pond spray fields as specified in an earlier comment.

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Section 7.0, page 7-2, paragraph 1, Phase 1 work must be planned to obtain the necessary data to characterize the source and soils. If necessary the scope should be expanded. If subphases are unavoidable they must not be commingled with the Phase II plan, schedules, or submissions.

Section 7.0, page 7-2, paragraph 2, The Health and Safety Plan (per the RCRA RFI Work Plan Development Guidance, EPA 5/89) is to be addressed in the Work Plan. If by reference to a separate document it should be included as an appendix, understood by, and readily available to field personnel.

Section 7.1.2, page 7-3, The Division recognizes the difficulty of obtaining discrete waste samples or to quantify the volumes of specified items like paper or metal containers. It is unnecessary to be concerned with "contaminant level...(of) paper or metal containers". It is expected; however, that the waste stream studies will be used as a basis for which hazardous wastes may be expected and that appropriate sampling and analytical techniques can be employed. At this juncture, the operator appears to be unaware as to the hazardous wastes expected. As previously suggested, it may be possible to narrow the list of expected hazardous constituents or derivatives that must be targeted.

Section 7.1.2, page 7-4, paragraph 2, It is stated that "further soils characterization would not be warranted if...significant contamination...(is not found)". If they are contaminated, however, what is proposed for further investigation? Is, perhaps, the Work Plan shortsighted given the likelihood of contamination? Please provide for continuation of Phase I activities if the soils are found to be contaminated.

Section 7.1.2, page 7-4, paragraph 3, Packer tests are proposed to determine the permeability of the weathered bedrock. This means that a packer will be set in or above the weathered shale or possibly in a bedrock/sand lens. Since packers generally need to be set in competent, impermeable strata, will this technique provide an accurate assessment of the weathered bedrock? Have alternatives been considered?

Section 7.1.3.1.1, page 7-5, paragraph 3, Please differentiate on Plate 7-1 those wells that will be drilled through the waste.

Section 7.1.3.1.1, page 7-6, paragraph 1, Specific procedures for drilling and sampling must be developed and submitted for approval as part of this Work Plan. The ability to comply with the safety plan must be demonstrated.

Section 7.1.3.1.1, page 7-7, paragraph 1, Regarding soil sampling, the ability of the field crew to drill to the bottom of the waste without penetrating the soil will be difficult. Specify how this will be accomplished. Also, whether a temporary or steel casing is set at this waste-soil interface, will sealing or pressure grouting (See PRC Comment #13) blowout the soil and prevent proper sampling?

A judgement call approach to isolating the soil zone from the weathered bedrock is not acceptable. The soil should be sealed "to", not "at", the top of the weathered bedrock in all holes.

Section 7.1.3.1.1, page 7-6, paragraph 2, State the source of potable water and document analyses of this water which make it acceptable for this use.

The Division is concerned about the use of water as a drilling fluid. An air-water mist approach would prevent airborne dust release to the same extent as pumped water but would diminish the potential to swell claystone or shale bedrock. Experience has shown that drilling clayey rock with water can result in a 10-foot core run expanding by 0.5-foot or more. This generally results in a core length in excess of 10 feet, and jammed core, or core loss from the bottom of the run. Discrete sample length then may not represent the true in place interval. This approach should be discussed with drilling contractors but not demanded of them.

The plan allows for additional samples if significant contamination is observed. Does this mean extending the depth of hole, subdividing the 2-foot and 4-foot increments, or both.

Specify the manner and frequency of cuttings and soils to be screened by field instruments. Discuss the instruments to be used and their attributes or effectiveness in screening for radiation and volatiles.

Section 7.1.3.1.2, page 7-7, paragraph 2, Specify the grout placement technique.

Section 7.1.3.1.2, page 7-7, paragraph 3, The plan as stated will probably result in the middle portion of the fill not being screened. Plotting the technique in respect to a 20-foot saturated zone indicates that the 10-foot middle portion would be excluded from the screened interval. Is this a rational choice, if so, explain the rational? Does this approach allow for the possibility of viscous contaminants being perched upon the daily soil cover, etc.

Section 7.1.3.1.3, page 7-8, The location of the piezometers, borings 2 and 6 to be used to measure "alluvial" ground water may be beyond the area of the valley fill alluvium. They are more likely to be placed in colluvium. Verify that they will perform as planned or revise the plan. (If these are Rocky Flats alluvium wells please so state.)

Section 7.1.3.1.4, page 7-8, Please be specific on the sampling technique to be employed.

Section 7.1.3.2.2, page 7-9, paragraph 4, The procedure suggested appears to be based on a whole air sampling technique. Is this method chosen through experience or through an analysis of available and acceptable methods? Since detection limits have not been provided in the document, the Division cannot determine whether the method will suffice. In the RFI Work Plan guidance (Vol. 4 @page 12-94, EPA 5/89) we find that detection limits for whole gas sampling are higher than by utilizing sorbent techniques. Alternative techniques should be discussed in relation to ARARs and equipment, or sample collection and detection limits. Consideration should be given to whether immediate and one-time sampling is sufficient.

Section 7.1.3.2.3, page 7-10, paragraph 1, It is stated that stratified sampling will depend on the results of the initial survey. When, if necessary, will these samples be collected; will it be within the Phase 1 Work Plan?

Section 7.1.3.2.3, page 7-10, paragraph 2, If SWMU 203 is revealed to be a source of contamination to the landfill, how will the study be expanded? Will the Work Schedule be affected?

Section 7.1.3.2.4, page 7-10, Volume II, page 9-64, (RFI Work Plan Guidance, EPA 5/89) discusses field methods for soil sampling. Is the proposed method appropriate? How will the volatile organic samples be collected, preserved and analyzed?

Section 7.1.3.2.5, page 7-10, The "Phase I" discussed in this section seems to imply the initial visual inspection, if so, please revise the text to avoid confusion with the Phase I activities.

Section 7.1.3.2.5, page 7-11, paragraph 3, Discuss the procedures and level of effort that would provide a 95% probability of detecting a contamination area or justify the 70% level.

Section 7.2.2, page 7-13, As previously suggested, it may be possible to reduce the parameter list if a hazardous material has not been used in RFP processes as determined through the waste stream studies. Volume 1, page 7-4 (RFFI Work Plan Guidance, EPA 5/89) discusses the use of RCRA Hazardous Waste Listing Background Documents. These documents may enable RFP to delete certain parameters and may provide data on decomposition products that should be included (Case Study #1 is included in Volume IV).

Section 7.2.3, page 7-14, paragraph 1, Reference Table 7-4 for the appropriate containers, preservatives and volumes of samples.

Also, if samples "potentially may be performed", a decision tree or other approach should be provided to the laboratory to clarify their work.

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